DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2 June 2010 has been entered.

Response to Arguments

Claims 1-6, 8, 10, 11 and 14 are rejected under 35 USC § 103 as unpatentable over Eccleston, in view of Pinier and further in view of Nasonex Product Information.

Applicants' attention is directed to the instant claims set filed on 2 June 2010. In this current claim set, the alleged invention is explicitly drawn to *a method for determining the formation of secondary structure of a thixotropic formulation*.

However, in applicants' remarks of 2 June 2010, the central issue seems to focus on the construction of the apparatus. The invention is clearly drawn to a method, not a configuration of the device by which *this method of determining* is carried out. Specifically, applicants' arguments at this juncture are erroneous to the positive prosecution of this case if its being suggested that the crux of this invention (at this juncture solely rests on mere configuration and construction of the device by which *this method of determining* is to be achieved) that is no where mentioned in the claim set.

Applicants' arguments are considered but are not found persuasive. Eccleston in combination with Pinier are proper for what they show in that they are adequate in sufficiently showing in every instance that *a method of determining the formation* of a secondary structure of a thixotropic formulation could be achieved. The references of record (Eccleston and Pinier) rejecting the said claims of this invention since 9 October 2007 have not and cannot sufficiently be overcome as the said references adequately encompass, suggest, and support obviousness over the alleged invention. Specifically, in the context, of the alleged invention drawn to *a method of determining formation,* the teachings of Eccleston and Pinier address all salient limitations.

Further, applicants aver a limitation in Pinier drawn to choosing the thickness of the film (please see on page 4 of Remarks filed on 2 June 2010 last third portion of the second paragraph) and further assert that the experimenter of claimed invention does not allegedly choose the thickness of the film. The Examiner does not see the relevance in view of the context of the claimed invention. However, in the alternate, how can the one of skill feasibly determine thixotropic formation without having some choice as to what material is to be tested in order to draw such determinations?

Rejections not reiterated from previous Office Actions are hereby withdrawn. The following rejections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Status of the Claims

Claims 1-6, 8, 10-11, and 14 are pending further prosecution on the merits.

Claim Rejection-35 U.S.C.§ 103(a)

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-6, 8, 10-11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eccleston et al., (Rheological Behavior of Nasal Sprays in Shear and Extension, Drug Development and Industrial Pharmacy, volume 26, issue 9 (2000), pages 973-983, printed page 1) in view of Pinier et al. (USPN 5,572,321), and further in view of Nasonex® Product Information, Schering Corporation, Kenilworth, NJ 07033, copyright (1997), printed page 1-4.

Eccleston et al. teach rheological profiles of commercial corticosteroid nasal spray suspensions (Beconase®, Nasacort®, Flixonase®, and Nasonex®) were compared using shear and extensional techniques. Thixotropy/shear thinning was investigated (Carri-Med CSL100, concentric cylinder geometry) by (a) the generation of flow curves at low (100 sec^{-1}) and high (1200 sec^{-1}) maximum shear rates and (b) determination of equilibrium shear viscosities at constant shear rates of 10 sec^{-1}, 100 sec^{-1}, or 1200 sec^{-1}. Extensional properties, on which droplet breakup and size depend, were examined using digital camera photography of droplet evolution and the length any trailing filament formed when the suspension was extruded from a 10-ml syringe at 500 μl/min. All the nasal suspensions were shear thinning and were also thixotropic to varying degrees. The absence of significant thixotropic recovery at short times (5 min) for all the

sprays implies that thixotropy is not necessarily the controlling factor for prolonged residence of the spray in the nasal cavity, but rather that it is the high viscosities present in all four sprays, even after structure breakdown. Preliminary extensional flow data identified differences among the four sprays, with extensional filament lengths increasing in the same rank order as the lowest shear rate (10 sec^{-1}) equilibrium viscosities (abstract only).

This teaching of Eccleston et al. would coincide with the central issue of claimed invention, which is drawn to the time to form a secondary structure via the disclosure, ' *The absence of significant thixotropic recovery time at short times (5 min) for all the sprays implies that thixotropy is not necessarily the controlling factor for prolonged residence of the spray in the nasal cavity.*' The time to form secondary structure of a thixotropic formulation is judged in relation to the administration of an intranasal spray solution to the nasal cavity; the solution's therapeutic effect being determined by its level of contact with intranasal passages due to the thixotropic and viscous properties. The reasoning concentrates upon thixotropy but more so upon the high viscosity in all four sprays tested. Eccleston et al. does teach extensional properties, on which droplet breakup and size depend, [with examination] using digital camera photography of droplet evolution and the length any trailing filament formed when the suspension was extruded from a 10-ml syringe at 500-microliters/minute.

Eccleston et al. teach the varying degrees of thixotropy for all four formulations and the absence of significant thixotropic recovery (secondary structure) at short times for all sprays.

Eccleston does not specifically teach back-scattered light by using a particle vision and measurement probe. Eccleston does not teach a transparent object or the limitation drawn to

converting to a video image. Eccleston does not disclose the aqueous sample as being an intranasal formulation.

Pinier et al. does teach a device for measuring the luminous intensity scattered by thin films of colloidal media. **It is more particularly intended for submicron grain-size analysis by photon correlation, and comprises a device for measuring the luminous intensity scattered by thin films (16) of colloidal media.** The invention includes a monochromatic luminous source (2); a converging optical system (4) focusing the source on the thin film to be analyzed; **at least one photosensitive detector** (5; 5'; 5"; 5"') **detecting the light scattered or backscattered by the thin film; and a system (60, 70) for processing the signal coming from photodetector(s) (5)** (abstract only).

Pinier et al. teach a ***transparent object***, i.e., glass as a refractor but also as an analyzer of the thickness of a sample (column 5, lines 41-47).

Pinier et al. teach the application of viscosity measurements on thixotropic liquids (column 2, lines 43-45).

Accordingly, Pinier et al. teach measurements of the viscosity drawn to a continuous phase (column 4, lines 51-53). **In light of Pinier et al teaching measurements of viscosity drawn to a continuous phase, it would be obvious to arrive at the conclusion that video imaging could be interchangeable with the process of measuring viscosity drawn to a continuous phase over time. Time-lapse photography is an instance where an image is captured but this instant series of time-lapse photographs could readily be converted to video imaging via a quick succession process. The objective of the instant invention is to measure thixotropy recovery (secondary structure).** Thus, it would be apparent to the skilled

artisan that imaging and the conversion of video imaging would occur in view of measuring viscosity drawn to a continuous phase over time.

Pinier et al. teach an aqueous sample being used for analysis and determination on said device.

However, Nasonex® Official Site teaches Nasonex as being comprised of mometasone furoate (pg 1, Description, 2nd ¶).

Further, Pinier et al. teach:

Its thickness varies according to the precise vertical translation of a positioner provided with a glass piece having a black lower end (column 4, lines 37-39).

The device further includes a vertical motion micropositioner 14 for vertically positions a piece 20 whose lower end is made of black glass 15. This black glass piece 15 has the same shape as and slightly smaller dimensions than receiving vessel 3. It may therefore fit into the vessel (column 5, lines 31-35).

The end of the black glass element 15 is advantageously slightly convex in order to provide a contact point with face 12 and to avoid thereby problems of precision, planar linearity between two surfaces. The precise vertical translation provided positioner 14 causes the thickness of the sample to be analyzed to vary until a thin film 16 of several microns forms (column 5, lines 41-47).

Thus, the limitation of the claims drawn to 'placing an amount of said thixotropic formulation on a transparent object oriented in a vertical position is adequately taught by the subject matter and inventive objective of Pinier et al.

Nasonex® Official Site teaches 0.05% w/w in the pharmaceutically acceptable carrier comprising microcrystalline cellulose, carboxymethylcellulose sodium NF, and additionally the humectant glycerin (pg 1, Description, 2nd ¶).

Nasonex® Official Site teaches 100 mg of suspension containing mometasone furoate monohydrate equivalent to 50 micrograms of mometasone furoate calculated on the anhydrous basis.

Nasonex® Official Site is indicated for the treatment of nasal symptoms and is not indicated to be comprised of alcohol (see Description, column 1, paragraphs 1-3).

Thus, it would be *prima facie* obvious to the skilled artisan at the time of invention to at once recognize a reasonable expectation of success via the combining or incorporating together of Eccleston et al. Pinier et al, and the Nasonex Product Information insert. There would be instant motivation to combine references Eccleston et al. and Pinier et al. based on Eccleston et al. specific teachings of distinct thixotropy recovery methodology and experimentation and Pinier et al. measurements of such thixotropic movement, i.e., the viscosity drawn to a continuous phase in time. However, in accordance, the Nasonex Product Information insert provides the most essential motivation based on the limitations drawn to specific parameters and descriptions of said nasal formulation. Instant claims 2-6, 8, 10-11, and 14 are made obvious over the disclosure in the Nasonex Product Information insert.

Further , based upon claim 3 being reasonably encompassed by The Nasonex Product information disclosing a compound comprising mometasone furoate, the limitation of claim 11 drawn to the secondary structure formation in about 25 to about 85 seconds is also reasonably encompassed.

Further still, the limitation of a pH of about 3.5 to about 7 in claim 6 is made obvious based upon the well-established pH of mometasone furoate being at approximately 4.3-4.9. By

virtue of mometasone furoate being specifically disclosed as the central active in the invention, the properties and characteristics of mometasone furoate would readily be obvious.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIMOTHY E. BETTON whose telephone number is (571)272-9922. The examiner can normally be reached on Monday-Friday 8:30a - 5:00p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan can be reached on (571) 272-0629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TEB

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